

Technical Report 1054

Economic Life Course Analysis of Peacekeeping Deployment in the Sinai

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January 1997

19970401 048



**United States Army Research Institute
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REPORT DOCUMENTATION PAGE

| | | | | | | | |
|---|--|--|------------------------------|--|--|------------------------------|--|
| 1. REPORT DATE 1997, January | | 2. REPORT TYPE Final | | 3. DATES COVERED (from . . . to) May 1994-February 1996 | | | |
| 4. TITLE AND SUBTITLE Economic Life Course Analysis of Peacekeeping Deployment in the Sinai | | 5a. CONTRACT OR GRANT NUMBER 5b. PROGRAM ELEMENT NUMBER 0603007A | | | | | |
| 6. AUTHOR(S) Hyder Lakhani (ARI) and Elissa Tartak-Abod (George Mason University) | | 5c. PROJECT NUMBER A792 5d. TASK NUMBER 1124 5e. WORK UNIT NUMBER H01 | | | | | |
| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Research Institute for the Behavioral and Social Sciences ATTN: PERI-RP 5001 Eisenhower Avenue Alexandria, VA 22333-5600 | | 8. PERFORMING ORGANIZATION REPORT NUMBER | | | | | |
| 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Research Institute for the Behavioral and Social Sciences 5001 Eisenhower Avenue Alexandria, VA 22333-5600 | | 10. MONITOR ACRONYM ARI 11. MONITOR REPORT NUMBER Technical Report 1054 | | | | | |
| 12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited. | | | | | | | |
| 13. SUPPLEMENTARY NOTES | | | | | | | |
| 14. ABSTRACT (Maximum 200 words): This report has two objectives. The first objective is to estimate the extent of financial gains or losses of Active Component (AC) and Reserve Component (RC) soldiers for the Multinational Force and Observers (MFO) peacekeeping mission in the Sinai. The second objective is to estimate the effect of these gains/losses on soldiers' intentions to remain in their respective component until retirement. Data for a population of approximately 500 soldiers were collected during their predeployment training at Fort Bragg, NC and during deployment at the South Camp in the Sinai. Results of these analyses revealed that AC soldiers perceived a small financial loss (\$102 per month) and RC soldiers perceived considerable financial gain (\$335 per month). Therefore, soldiers experienced net average financial gains (\$233 per month). Regression results for change in financial status revealed that civilian earnings were negatively related to financial gains of the RC. Regression results for career commitment revealed that the soldiers' likelihood of staying in their respective component until retirement increased with financial gains, while statistically controlling for satisfaction with Army life and demographic variables. | | | | | | | |
| 15. SUBJECT TERMS Peacekeeping Multinational Force and Observers Reserve Components The Sinai 28th Rotation | | | | | | | |
| 16. REPORT Unclassified | | | 17. ABSTRACT Unclassified | 18. THIS PAGE Unclassified | 19. LIMITATION OF ABSTRACT Unlimited | 20. NUMBER OF PAGES 58 | 21. RESPONSIBLE PERSON (Name and Telephone Number) Hyder Lakhani (703) 617-8104 |

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Office, Deputy Chief of Staff for Personnel
Department of the Army

January 1997

**Army Project Number
20363007A792**

Manpower and Personnel

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FOREWORD

The Organization and Personnel Resources Research Unit (OPRRU) of the U.S. Army Research Institute for the Behavioral and Social Sciences conducts research in the areas of soldier retention, readiness, organizational change, family factors, and peacekeeping operations. Questions have recently arisen about the economic benefits of peacekeeping expenditures to individual soldiers deployed for the Multinational Force and Observers (MFO) mission in the Sinai.

This report identifies and quantifies the financial gains and losses perceived by soldiers deployed for the 28th Rotation in the Sinai. The relationship of these gains or losses to their career commitment in respective components is also analyzed.

This research was sponsored by the Chief of Staff, Army (CSA) as part of a larger project on the 28th Rotation. Results of this and other research were briefed to U.S. Army Deputy Chief of Staff for Personnel (DCS PER) and CSA by the project Task Group Leader, Dr. Ruth Phelps.

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ECONOMIC LIFE COURSE ANALYSIS OF PEACEKEEPING DEPLOYMENT IN THE SINAI

EXECUTIVE SUMMARY

Research Requirement:

The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) conducts research on manpower, personnel, training, and peacekeeping of significance and interest to the U.S. Army. Questions have been raised about the economic benefits of peacekeeping in the Sinai, as part of Rotation 28 of the Multinational Force and Observers, to the individual soldiers.

Procedure:

The authors reviewed literature and analyzed data ($N = 500$) for Active Component (AC) (20%) and Reserve Component (RC) (80%) soldiers who volunteered for the 28th Rotation for service in the Sinai. Survey data were collected during the training phase at Fort Bragg in August and October 1994 and during deployment at South Camp in the Sinai in May 1995. Descriptive statistics and regression equations (step-wise, hierarchical, and logit) were estimated to analyze changes in financial status from the predeployment training phase to the deployment phase. The effects of these changes on career commitment of the soldiers in their respective component were also analyzed. Data for a control group of RC soldiers who did not volunteer for the mission were also collected and analyzed.

Findings:

The literature review revealed that there was no difference in the cost of deployment of a 100% AC battalion, as in the 27th Rotation, and a composite battalion of 20% AC and 80% RC, as in the 28th Rotation. The regression results for the 28th Rotation revealed that the RC soldiers realized an average net financial gain (\$335 per month) and the AC soldiers incurred a net financial loss (\$102 per month) from the overall mission. Career commitments of both the groups to their respective component was, however, enhanced significantly by financial gains and their satisfaction with Army life.

Utilization of Findings:

The cost of an active and a composite battalion is about the same, but the economic benefits appear to be greater for the RC component. Based on this result, the Chief of Staff, Army might be able to use this information for future deployment of composite battalions in the Sinai, *ceteris paribus*.

ECONOMIC LIFE COURSE ANALYSIS OF PEACEKEEPING DEPLOYMENT IN THE SINAI

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ECONOMIC LIFE COURSE ANALYSIS OF PEACEKEEPING DEPLOYMENT IN THE SINAI

INTRODUCTION

"Money is like a sixth sense without which you cannot make complete use of the other five."

Somerset Maugham

During the post-Cold War era, multinational peacekeeping operations have become increasingly more important for both the United Nations Organization (UN) and the United States (US). Changes in international peacekeeping doctrine and Russian support of collective security under the United Nations auspices have contributed to the status of peacekeeping as a "prominent military mission" (Segal, Segal, & Eyre, 1992). The US Joint Chiefs of Staff (1995) noted for the first time that the principal roles of American troops are no longer limited to fighting wars and deterring aggression, but also include sustaining peace.

The level of increased peacekeeping efforts directly impacts two significant areas, personnel and financial resources. For example, the US Joint Chiefs of Staff (1995) report added that "Reserve component elements will take on increased responsibility for participating in and supporting peacekeeping missions" (p. 9). In addition, peacekeeping activities require substantial revenue and resource allocation. An obvious rationale for US spending on peacekeeping efforts is that prevention of war is better than the cure. The rationale for deployment of the Reserve Component (RC) is to reduce the strain on the Active Component (AC) and also to integrate the two components in a true sense of the term "total force policy."

The UN peacekeeping budget increased from \$233 million with 20,000 employees in Fiscal Year 1987 to \$3.6 billion with 70,000 employees in Fiscal Year 1995. In fact, the UN spent more on peacekeeping in 1993 than in the previous 48 years of its existence (Mathews, 1995). The US share of the UN peacekeeping budget accounts for approximately 31% and amounted to \$1 billion in Fiscal Year 1995 (Preston, 1995).

The US peacekeeping expenditures for the Multinational Force and Observers (MFO) operation in the Sinai are excluded as part of the US share in the UN peacekeeping budget. The US provides one-third of the annual operating costs for maintaining the MFO (US Department of the State, 1995) and has provided about one-half of the total force required for this mission (US General Accounting Office, 1995). US involvement in the MFO operation consists of supplying military personnel and civilian observers and providing financial contributions. Apart from the US, the MFO includes ten other countries: Australia, Canada, Colombia, Fiji, France, Hungary (replaced The Netherlands in 1995), Italy, New Zealand, Norway, and Uruguay.

The US deploys soldiers to the Sinai Peninsula on six-month rotations to support the Camp David Accord signed in 1979. Since the implementation of the Camp David Accord in 1982, there have been 28 rotations. The 28th rotation initiated deployments in January, 1995 and comprised a battalion of 80% RC and 20% AC soldiers. This was the first time the US deployed a battalion of this type as part of the MFO.

The macro aspects of public expenditures for peacekeeping costs are relatively well known,

but little is known about the micro economic effects of expenditures on the soldiers and their families (Brinkerhoff & Horowitz, 1995; US General Accounting Office, 1995a, 1995b). For example, the US General Accounting Office (1995a) estimated the total US incremental cost of deploying the AC (the 27th rotation) for Fiscal Year 1993 at \$18.6 million. Similarly, Brinkerhoff and Horowitz (1995) of the Institute for Defense Analyses report the cost of the combined AC and RC battalion in the 28th rotation at \$21 million, with \$18 million accounting for pay and allowances. They note, "this is about the same cost that would be incurred by using an AC battalion for the mission" (Brinkerhoff & Horowitz, 1995, p. 7). Therefore, an objective of this report is to analyze the micro-economic life course benefits to US soldiers who were deployed for 28th rotation of the peacekeeping mission in the Sinai.

CONCEPTUAL FRAMEWORK

The life course theory holds that experiences earlier in our lives shape the short-term and long-term paths our lives will follow. Active military service is a prime example of a life-shaping experience that has enduring effects across the life-span. Therefore, economists, sociologists, and psychologists are interested in the effects of active military service on soldiers' post-service life course developments. Economists concentrate on earnings, sociologists focus on educational and occupational attainment, and psychologists deal with socio-psychological life course aspects. Both the theoretical underpinnings and variables of interest vary by discipline. The research presented below illustrates this divergence.

Economists consider military training and experience as investment in human capital that may yield returns after active military service. They use the theory of human capital to predict future earnings of veterans. This theory has two competing hypotheses related to the effects of human capital on subsequent earnings: the theory of "general" human capital versus the theory of "specific" human capital.

The hypothesis of "general" human capital suggests that military training enhances general human capital which can be readily transferred to civilian occupations and results in an increase in civilian earnings. A number of economic studies have found support for this hypothesis (Villamez & Kasarda, 1976; Little & Fredland, 1979; Martindale & Poston, 1979; Sticht, Armstrong, Hickey, & Caylor, 1987; Magnum & Ball, 1989; Phillips, Andrisani, Daymont, & Gilroy, 1992; Xie, 1992; Bryant, Samaranayake, & Wilhite, 1993). These studies concluded that gains in civilian earnings were significantly higher for World War II veterans, somewhat smaller for Korean War veterans, and the smallest for Vietnam War veterans compared to non-veterans.

The hypothesis of "firm specific" human capital suggests that military training imparts firm-specific capital that is not transferrable to the civilian sector. Military service taps soldiers' capacities during the prime of their lives at the expense of college education or civilian experience. Economists contend that the interruption in education and/or civilian work experience is not conducive to continued increases in earnings. The result is lower civilian earnings reported for veterans compared to non-veteran civilians (Rosen & Taubman, 1982; Berger & Hirsch, 1983; Schwartz, 1986; Crane & Wise, 1987; Angrist, 1989, 1990; Laurence & Ramsberger, 1990; Angrist & Krueger, 1994).

Sociologists generally concentrate on the effects of military service on educational or occupational attainment of soldiers. Educational attainment refers to higher levels of schooling; occupational attainment refers to an index of prestige within an occupation. Mason (1970) and Fligstein (1976) found that veterans of World War II and the Korean War had significantly higher levels of occupational attainment than non-veterans. However, studies that sampled Vietnam War veterans revealed that occupational or educational attainment was lower for this group compared to non-veterans (Card, 1983; Cohen, Segal, & Temme, 1992). These results support findings of economic studies which have concluded that earnings of Vietnam era veterans were lower than non-veterans due to lower levels of educational attainment.

Gade, Lakhani, and Kimmel (1991) concluded that post-Vietnam era veterans obtained social-psychological benefits such as self-pride, self-confidence, ability to work with others, self-discipline, leadership ability, establishing independence, respect for authority, and the development of new skills. Schroyer, Hansen, Lerro, and Benedict (1990) administered a survey to American business executives regarding attitudes and perceptions of veterans in the civilian work force. Results indicated that employers value the attributes that may be acquired by Army veterans. In addition, survey results indicated that, in general, employers believe that Army veterans possess greater levels of desired skills and abilities than nonveteran job applicants.

The research outlined above illustrates differing perspectives (i.e., economic, sociological, and psychological) regarding the effects of active military service on post-service developments. In addition, a theoretical framework is presented for organizing the literature in this domain.

LITERATURE REVIEW

The relative importance of reservist soldiers in the military is increasing given the rise in military commitments and the greater drawdown of the active-duty force (Lakhani, 1995). The Air Force has already implemented a plan that relies on reservists to fly cargo planes, aerial tankers, and fighters around the world. The Army implemented a similar plan as part of the MFO Task Force (Matthews, 1995).

A reserve job is a part-time volunteer assignment and is similar to a civilian part-time job in a number of ways. Both groups of jobholders come from diverse backgrounds, select part-time work for a variety of reasons, and fill jobs in different occupations (Thomas & Kocher, 1993). The reserve job also differs substantially from civilian part-time jobs. The National Guard component of the reserve force primarily involves combat infantry missions and is committed to a specified length of service. Reservists must be interested in "military service, meet enlistment standards, complete initial training, and adapt to the military environment" (Thomas & Kocher, 1993, p. 340). Most reservists accrue eligibility for retirement benefits, compared to less than 20% of part-time civilian workers (Blank, 1990, as cited in Thomas & Kocher, 1993).

Selected reservists may participate in missions that present family and/or job conflicts. As recent events in the Middle East have shown, reserve participation may include the risk of civilian job disruption and family separation if a reservist is "activated" (Thomas & Kocher, 1993). As such, officials are concerned about the impact on reservists' families, civilian jobs,

and earnings (Matthews, 1995). Francis (1992) reported that reservists deployed in Operation Desert Storm lost civilian income, health, and other benefits, as well as facing reduced promotional opportunities in civilian occupations. As a result, more soldiers planned to leave the Army after their return (26%) than when they joined (18%) (Lakhani, 1995).

The required growth of the reserve force to adequately support the active force component can be maintained by increasing reenlistment of reservists. However, retention can be problematic because the overall annual attrition rate in reserve services is 25% (Lakhani, 1995). Wong, Bliese, and Halverson (1995) examined the effects of multiple deployments on soldier well-being and on soldier retention intentions using hierarchical regression. Survey responses were analyzed using a sub-sample of 911 AC junior enlisted soldiers in infantry units deployed to Haiti. Data were collected in November and December, 1994. Independent variables were multiple deployments (i.e., Persian Gulf, Somalia, Grenada, Florida-Hurricane Andrew, Panama, forest fire fighting, or Vietnam) and marital status. Results showed that marital status was not significantly related to positive retention intentions, but multiple deployments were negatively related to retention intentions. There was also a significant interaction between marital status, previous deployments, and retention intentions. Single soldiers with previous deployments were less likely to remain in the Army. Previous deployments were not significantly related to retention intentions for married soldiers. These findings illustrate the Army's concern about the impact of "activated" reservists on future reenlistment intentions.

Our research addresses some of the Army's concerns regarding deployment of reserve forces. In this paper, we assess the economic impact on reservists being deployed to active duty missions compared to the impact on their active-duty counterparts. Both groups were deployed to the same mission. The second focus of our research is to determine how demographic and economic variables affect Army career intentions. We draw on the economic and military literatures to provide an overview of current research.

Veteran Status and Civilian Earnings

Our research targets reservist soldiers in peacekeeping operations. While most research investigates the macro-economics of peacekeeping, we are interested in micro-economic effects such as financial gains or losses due to deployment. Little economic research is drawn from reservist samples to specifically address our research questions. Instead, these studies tend to compare Army veterans to non-veterans.

Each year, thousands of young men enlist in the Armed Forces and most are discharged after a few years and re-enter the civilian labor force (Bryant et al., 1993). A body of literature has developed suggesting that military service positively influences civilian socioeconomic patterns. The general hypothesis is that civilian earnings of military veterans are affected by military experience, military training, and many social, economic, and demographic variables.

Positive Effects of Military Service

Mason (1970) analyzed the GI Bill benefits and concluded that many veterans obtained a higher education because of these benefits. Fligstein (1976) concluded that higher educational levels of World War II veterans were due to their greater motivation. Martindale and Poston (1979) concluded that World War II, Korean War, and Vietnam War era veterans all showed higher civilian earnings patterns than non-veterans, though these positive effects were less substantial and more variable for Vietnam era veterans. Villamez and Kasarda (1976) also observed a positive economic impact of military service, but found the impact to be the strongest for World War II veterans and weakest for Vietnam era veterans. Xie (1992) concluded that veterans earned slightly more than non-veterans in the civilian market after statistically controlling for age and education. Little and Fredland (1979) noted that there was a positive economic impact of military service, with larger gains realized by non-white veterans than white veterans.

The greater benefits to minority groups is often called the "bridging environment" provided by the military to get them out of a low level equilibrium trap of poverty based on past discrimination. Gade et al. (1991) analyzed the post-Vietnam data and concluded that Army service had a positive impact not only in terms of socio-economic benefits, such as an increase in employment, earnings, standard of living, and educational levels, but also in enhancing several socio-psychological benefits. In this research, Gade et al. (1991) confirmed the bridging hypothesis.

Negative Effects of Military Service

The studies that show negative effects of military service mostly pertain to veterans who were drafted during the Vietnam War. Laurence and Ramsberger (1990) analyzed a small sample of 400 low ability veterans (those who scored in one of the lowest categories on the Armed Services Vocational Aptitude Battery). They concluded that being a veteran did not provide much, if any, advantage in post-military earnings. However, their results are not very useful for a number of reasons. First, the sample consisted of low ability veterans recruited in the pre-all volunteer force (AVF) era. Second, they had questionable control variables for a period prior to enlistment instead of the more relevant post-service variables. Finally, they did not have a comparable control group of non-veterans. The military has not recruited similar low ability recruits since the AVF. Above all, other studies using a larger sample of substantially the same data reached opposite conclusion (see Sticht et al., 1987).

Crane and Wise (1987) focused exclusively on the Vietnam era veterans and found that veterans lost 11 percent of civilian earnings, while Berger and Hirsch (1983) found a smaller penalty of 2 percent. Schwartz (1986) found no benefit for Korean War veterans and a penalty for Vietnam era veterans. Angrist (1989) used National Longitudinal Survey data that were also used by Phillips et al. (1992). In this study, Angrist (1989) concluded that white veterans had lower hourly wages in 1981 than non-veterans and that Vietnam veterans had neither a premium nor a penalty. In 1990, Angrist used social security data and showed (ten years after discharge) that white Vietnam veterans had an annual earnings loss of \$3,500 or a penalty of 15 percent.

Cohen et al. (1992) analyzed occupational attainment of Vietnam era veterans and concluded that lower occupational attainment was attributable to lower educational levels of veterans instead of veteran status.

The explanations referred to above suggest that the observed correlation between veteran status and civilian earnings is caused by military service. It is possible that other factors such as war cohort, race, education, or type of training could moderate these effects (Martindale & Poston, 1979). The sections below elaborate on this research.

War Cohorts

Some research has shown that World War II veterans benefitted from their military experience, but Vietnam era veterans earn less than non-veterans in their cohort (Villamez & Kasarda, 1976; Martindale & Poston, 1979; Sticht et al., 1987; Magnum & Ball, 1989; Phillips et al., 1992; Xie, 1992; Bryant et al., 1993). Villamez and Kasarda (1976) provided descriptive information on income differences between veterans and non-veterans, and income distributions of veterans vs. non-veterans by race and war cohort (i.e., World War II, Korea, and Vietnam). They conducted a path analysis postulating that income is a direct function of veteran status, age, education, and occupation. They found that veterans generally reported higher incomes. However, this pattern was reversed for the Vietnam cohort.

One hypothesis to explain civilian wage differences among war cohorts is that selection forces are likely to induce a positive bias in estimates of the veteran premiums for World War II veterans and a negative bias for Vietnam veterans (Angrist & Krueger, 1994). Mason (1970) and Fligstein (1976) found that veterans of World War II and the Korean War had significantly higher levels of occupational attainment than non-veterans. Studies that sampled Vietnam War veterans revealed that occupational and educational attainment was lower for this group compared to non-veterans (Card, 1983; Cohen et al., 1992). Demographic variables such as education level may explain differences between cohort groups. Evidence suggests that college-educated men from wealthy families avoided military service during the Vietnam period, while low income men were unable to avoid the service.

Demographics

Demographic factors seem to play a significant role in explaining the relationship between veteran status and civilian wages. For example, Martindale and Poston (1979) assessed race differences from three war periods to determine economic effects on veterans vs. non-veterans. In general, veterans had earnings (adjusted for inflation) advantages over non-veterans. However, for whites and Mexican Americans, non-veterans fared better financially than veterans. These findings are sustained among the World War II and Korean War cohorts. This suggests that certain minorities may benefit from military experience once they rejoin the civilian marketplace. Prior to military service, minority groups may be economically disadvantaged compared to non-minorities in terms of jobs and salaries. Military experience for minority groups may provide the skills to be more marketable than non-veterans with the same backgrounds. Bryant et al. (1993) found similar results showing that the impact of military

service on subsequent civilian wages differs with education and race. Minorities and high school dropouts benefitted from a military stint while college graduates suffered a large wage penalty.

Browning, Lopreato, and Poston (1973) examined the effects of military service for three ethnic groups: Mexican Americans, African Americans, and whites. Two related predictions were made: 1) white veterans will earn less than non-veterans and 2) among minorities, veterans will earn more than non-veterans. The goal of this research was to determine the average dollar difference between veteran and non-veteran income while controlling for educational and occupational attainment. The data supported prediction #1 that income differences between veterans and non-veterans vary by race. Prediction #2 was also supported. For most occupations, veterans had an income advantage over non-veterans for both minority groups.

Little and Fredland (1979) reported the long term effects of veteran status on civilian wages. This research targeted veteran groups, disaggregated by race, approximately 20 years after their military service in World War II. Results showed that the positive impact of military service on civilian earnings was attributed to "general" training. Veteran status was a positive and significant variable in explaining the earnings of ex-servicemen, regardless of race, approximately 15 to 20 years after their military service. White veterans had earnings 5-10% higher than non-veterans and minority veterans had even larger benefits. Limited evidence suggested that veterans came from somewhat better socioeconomic backgrounds than non-veterans and that veterans improved their status relative to non-veterans.

Military Training and Experience

The military is a major provider of on-the-job training. This training can be useful in the civilian sector (e.g., motor vehicle driving, computer skills, and repairs and maintenance) (Magnum & Ball, 1989; Sandler & Hartley, 1995). Other military training is not as transferable to the civilian sector and includes missile operators, tank gunners, and parachutists (Sandler & Hartley, 1995). Some researchers have suggested that approximately 80% of military occupational specialties have civilian counterparts (Magnum & Ball, 1987). Magnum and Ball (1987) conducted a study to determine the transferability of military skills training to civilian occupations. Results showed that a significant amount of skills transferred to civilian employment. Males were better able to transfer skills in occupations such as craft and equipment repair and females were better able to transfer skills to occupations such as administrative support.

In general, it is predicted that more general training is transferable and will result in higher civilian wages for veterans. In contrast, soldiers receiving specific training will not benefit in the civilian market. Bryant et al. (1993) provided empirical evidence suggesting that military training is beneficial. Results showed that training increased civilian wages, but general military experience was detrimental to subsequent civilian earnings. Bryant and Wilhite (1990) separated military experience from military training. After controlling for several social, economic, and demographic characteristics, military training exerted a positive influence on civilian wages. Results showed that time in the military reduced civilian wages. Military training does not have a direct impact on wages, but interacts with time in service. One month of training offsets the

negative impact of about five months in the military. These results suggest that military training differentially impacts veterans' subsequent civilian wages.

Goldberg and Warner (1987) examined the effects of military and civilian experience on veterans' earnings. In support of the theory of general human capital, results showed that military earnings are a close substitute for civilian experience in occupational groups where training appears to be most transferable (e.g., medical, electrical/mechanical equipment repair). In occupational groups where training is least transferable (e.g., combat), civilian experience has a substantially larger effect on civilian earnings than does military experience. This research supports the specific human capital theory and illustrates how military experience moderates the relationship between veteran status and civilian earnings.

Summary

The positive effects of military service were substantive for World War II veterans, but declined somewhat for Korean War veterans and were negative for Vietnam War veterans. In addition, the impact of demographic factors on civilian earnings revealed that members of minority groups realized greater financial gains as veterans than members of non-minority groups. The literature of the effects of military training versus military experience revealed that the training was more beneficial for life course development than experience. Military experience is useful in occupations with civilian counterparts.

The preceding studies appear to have three limitations. First, the studies do not include a comparable statistical control group of non-veterans. Some studies employ non-veterans of similar age or similar formal educational levels as statistical controls. However, the growing literature on the effects of cohort size on earning profiles show that it is the year of entry into the labor market that affects earnings rather than year of birth (Easterlin, 1980; Freeman, 1979; Johnson, 1980; Welch, 1979). In addition, formal educational level is not an appropriate control variable because it does not account for the quality of education which varies by geographic regions.

The second limitation of these studies is that economic studies typically concentrate on earnings of individuals and neglect family earnings. With the rise in dual-income families in society today, it becomes necessary to examine family earnings. This is particularly of interest for military members whose spouses are unemployed or underemployed during periods of active military service (Payne, Warner, & Little, 1992).

The third limitation is that the research is compartmentalized by discipline: economists tend to concentrate on economic variables and sociologists and psychologists analyze variables of their own discipline. Therefore, there is a substantial case for inter-disciplinary research that encompasses variables across these disciplines.

Turnover Intentions

This section reviews the literature on demographic and economic variables that affect Army career intentions. In this review, we primarily draw from the psychological and military literatures to provide an overview of current research.

Many turnover models emphasize intervening variables of job satisfaction, commitment, intention to quit, and search behavior (e.g., Mobley, Griffeth, Hand, & Meglino, 1979; Price & Mueller, 1981). While these models identify causal paths in making a turnover decision, the relative importance of other determinants has been neglected. For example, the direct effects of demographic and economic variables have received limited attention (Thomas & Kocher, 1993). Cotton and Tuttle (1986) conducted a meta-analysis on the correlates of turnover and found that type of industry moderated the relationship between turnover and pay, job satisfaction, and gender. In addition, they found that individual perceptions about economic or possible employment alternatives are consistently related to individual turnover. The authors suggest that these variables significantly impact turnover findings and need to be studied in the future.

To investigate broader categories of turnover antecedents, Thomas and Kocher (1993) adopted Cotton and Tuttle's (1986) categorization of turnover correlates in their research. Cotton and Tuttle (1986) summarized the correlates of turnover from numerous studies and reported three factors that affect turnover intention: external market (e.g., alternative employment opportunities), personal (e.g., demographic, work experience), and work-related (e.g., job characteristics).

Thomas and Kocher (1993) were specifically interested in determining a broad range of factors likely to influence recruiting and retention policies. They tested hypotheses about the relative contribution of external market, personal, and work-related factors to an Army reservist's decision to remain in the Army. A logistic regression model was used with a dichotomous dependent variables (turnover decision). Independent variables were civilian labor force status (external variable); race, family status, average length of service, school attendance (personal variables); travel time to drill and retirement benefits (work-related variables). The initial turnover model was run for all reservists and results showed a significant gender effect. Different models predicting turnover were found for males and females. Subsequent analyses were performed using gender specific models. We report the male model because it is consistent with the sample in our study. Results showed that logistic regression coefficients for age at reserve entry, school attendance, current financial benefits, and retirement benefits positively predicted turnover decision. Race did not significantly impact the turnover decision.

Based on these results, Thomas and Kocher (1993) evaluated policy approaches. They suggested that policy should target older individuals in reserve recruiting (e.g., ages 20-22). Attention to compensation policy and retirement policy appear to be important predictors of male reserve retention, as would a policy focusing on non-monetary aspects of the reserve job such as intrinsic job characteristics.

Thomas and Kocher (1993) described the need for longitudinal research using survey and personnel data. Over time, "leavers" and "stayers" could be tracked beyond their turnover decision points to update personal, financial, and work-related data. In addition, research comparing civilian to reserve turnover can shed light on individual differences between these groups that may affect turnover. The research presented below focuses on a narrower set of variables to address turnover intentions among Army reservists.

Demographics

Grissmer and Kirby (1985) found that age and the number of dependents negatively predicted reenlistment decisions while marriage positively predicted reenlistment decisions. This suggests that single reservists have higher retention rates than married reservists, but married reservists with dependents have higher retention rates than single or married and childless reservists. Results showed that higher retention rates were found among African-Americans and people with some college education. Grissmer and Kirby (1985) stated that these results may reflect a preference for reserve service among these groups or more uncertain civilian economic prospects for African-Americans and less educated people. Phillips et al. (1992) stated that minorities are more likely to remain in the Army than whites. For example, African-Americans reenlist after their first term at about a rate of 50 percent higher than whites.

Attitudes

Lakhani and Fugita (1993) used a sociological theory to explain how spouse attitudes toward reserve participation affected reserve reenlistment. Results showed that family earnings as well as a spouses' favorable attitude toward the reservists' career plans increased the probability of reenlistment. Lakhani (1995) found that spouses' favorable attitude toward reenlistment was positively related to reservists' reenlistment decision. Reservists' satisfaction with military life and job satisfaction were also positively associated with the probability of reenlisting. Lakhani (1995) suggested that attitudinal and affective variables enter the reenlistment decision making process, and economists should include these variables in analyses on retention intentions.

Military Experience

Reserve retention rates also show strong dependence on military experience variables. Grissmer and Kirby (1985) reported that higher pay grades positively predicted retention rates. In addition, reservists in noncombat jobs were more likely to reenlist at higher rates than those in combat jobs. Holding risk constant, it may be that the skills acquired in combat jobs cannot be easily transferred to civilian jobs.

Burright, Grissmer, and Doering (1982) advanced research on reserve retention by including reserve-specific variables in their analysis. They concluded that variables such as prior active military service, pay grade, civilian employer's attitude toward the reserves, and prior reenlistment in the reserves had a positive and significant effect on reenlistment. In contrast, years of service and assignment to a combat position were negatively related to reenlistment.

The US General Accounting Office (1991) found that reserve attrition rates increased in two cases. First, attrition rates were higher for reservists who lost overtime pay opportunities. Second, attrition rates were higher when a reservist's primary military occupational specialty (PMOS) mismatched their duty occupation. Based on these results, they recommended more flexible training requirements and further analysis of matching PMOS with duty occupations.

Economics

Some researchers analyzed the role of economic variables in predicting retention intentions. Grissmer and Kirby (1985) found that reservists who live in areas with relatively high unemployment and low per capita income have relatively higher retention rates. This implies that reserve service may be economically motivated by supplementing income. In this study, Grissmer and Kirby (1985) also tested the effects of Selective Reenlistment Bonuses (SRBs) on reenlistment decisions. Results showed that SRBs were significantly related to retention rates. Reservists receiving bonuses extended or reenlisted more frequently than those in a control group. The estimated coefficient of .11 for military bonuses suggested that separation decisions may be weakly sensitive to pay increases.

Mehay (1991) tested whether the decision by civilians to join the reserves is equivalent to the decisions by civilians to moonlight. Results showed two distinct models for reservists and moonlighters, suggesting the decision to join the reserves is not equivalent to the decision to moonlight. Results showed that participation in the reserves is a labor force decision which is strongly influenced by individual and family economic status and local employment conditions. These findings are consistent with research related to reservists' intention to remain in the Army.

Finally, Lakhani (1995) found that reenlistment increased with an increase in reserve pay and decreased with increases in civilian moonlighting wages. In addition, reenlistment intentions correlated positively and significantly with actual reenlistment behavior. Thus, both variables are appropriate for analyzing turnover.

Summary

Research has shown that demographic, attitudinal, military, and economic variables explain important aspects of the reenlistment decision. The literature revealed that turnover intentions were positively associated with age at entry into the RC, school attendance, current financial benefits, and retirement benefits. In addition, reserve retention was positively associated with military pay grades, noncombat jobs, prior active military service, civilian employers' positive attitude toward reserve service, and the similarity of civilian and reserve jobs. As Lakhani (1995) states these variables "occupy an important place in the reenlistment analysis" (p. 126) and "should not be excluded from the reenlistment equation" (p. 124). Therefore, to increase reserve reenlistment, the US Congress should increase reserve pay to match or surpass civilian moonlighting wages.

RESEARCH OBJECTIVES

Some of the volunteering RC soldiers were confronted with a tradeoff between civilian earnings and active duty military earnings. As such, it is necessary to determine whether the loss of civilian earnings, plus drill pay received as a reservist, were offset by either financial gains or losses due to active duty earnings associated with volunteering for the peacekeeping mission. In addition, the component's average financial gain will be compared to its average financial loss to determine the average net gain or loss associated with volunteering for the component. Career intentions will be regressed on financial status (gains or losses) to determine whether financial gains are associated with Army career commitment, while statistically controlling for other variables affecting career commitment.

For this paper, career commitment is defined as "the intention to stay in the RC or AC until retirement." In future research, career commitment will be defined as reenlistment behavior during the post-deployment period. Future long-term earnings and reenlistment behavior will be analyzed by follow-up surveys for three years upon the soldiers' return (end of 1995, 1996, and 1997). Educational attainment, a sociological variable, will be assessed from educational levels attained by the Sinai veterans from the post-deployment follow-up surveys.

This preliminary report is, however, limited to examining life course perceptions of financial benefits of individual (not family earnings) volunteers during two points in time. For wave one, we compare the change in reservists' financial status during the pre-deployment training period (from approximately July 1994 through December 1994) to their financial status prior to volunteering for this mission. For wave two, we compare the change in financial status during the deployment phase in the Sinai (from January 1995 through July 1995) to their status during the training period. The third through the fifth waves will result in three annual follow-up surveys from the end of 1995 to the end of 1997. The results of these last three waves will be discussed in separate reports. Future research will determine whether RC soldiers with civilian jobs prior to volunteering for the mission were reemployed in the same jobs, as required under the 1994 Uniformed Services Employment and Reemployment Rights Act (USERRA).

METHOD

Data Collection

To determine the economic impact of deployment to the Sinai on the soldiers, data were collected in two waves. Wave one data were collected during the MFO task force training phase and wave two data were collected during deployment at the South Camp in the Sinai. Similar surveys and methods were employed during both data collection waves. Most demographic information was collected during wave one. However, these demographic data were used in both wave one and wave two data analyses.

Wave One: Training Phase

The survey instrument, 1994/95 Questionnaire of Socioeconomic Impact of Deployment in Multinational Force and Observers (MFO) Task Force, was administered, in person, to a population of approximately 500 soldiers during pre-deployment training at Fort Bragg, NC in August and October, 1994. The response rate varied between 66% and 90% for most of the 28 items in the survey. The survey consisted of demographic and financial items. Financial items included military and civilian pay and allowances, self-estimated financial gains or losses from volunteering for the MFO assignment, civilian and military employment experience, spouse employment experience and earnings, and Army career intentions prior to and subsequent to deployment for the mission. The specific variables of interest for this paper are described below.

The dependent variable, career intention, was measured in response to the question, "Has your likelihood of staying in the Guard/Reserve or Regular Army until retirement increased, decreased, or remained the same due to deployment in the MFO?" Responses were coded as follows: decreased=1, remained the same=2, increased=3. Responses for "don't know" and missing values were excluded from the analysis by listwise deletion.

The quantitative independent variables were self-reported financial gains and losses, monthly pay, civilian earnings, and education. Respondents estimated the values of financial gain and loss to open ended items. We calculated the soldiers' monthly salaries based on the 1995 Army Times Pay Chart using individual data on rank and years of service. Years of service was defined as the aggregated total number of years in active and reserve duty. Education was defined as a continuous variable with the following values: some high school, no diploma=1; GED or equivalent=2; high school diploma=3; 1-2 years college=4; Associate's Degree, occupational program=5; Associate's Degree, academic program=6; 3-4 years college, no degree=7; Bachelor's Degree=8; graduate credit, no degree=9; Graduate or Professional Degree=10. Variables for categorical data were dummy coded. These variables included race (white=1; else=0), marital status (married=1; else=0), and force component (Reserve=1; Active=0).

Wave Two: Deployment Phase

The deployment phase survey was administered, in person, to the population of about 500 Active and Reserve Component soldiers in the Sinai Peninsula during May 1995. The survey consisted of 41 items of both financial and family impact variables. The subset of financial and non-financial variables used for the analyses in this paper is specified below.

Data were collected for the dependent variable, career intention, during the deployment phase survey administration. The item and its response options were identical to the career intention item included in the training survey. Data for financial gains and losses were also collected as independent variables, but did not reflect open ended responses as in the training phase survey. Instead, responses were framed in terms of value ranges to reflect the ranges in the training wave data. The midpoint of each range was used as an item response. Midpoint values for financial gain/loss were computed as follows: did not gain/lose financially=\$0, less than

\$100/month=\$50, \$100-\$200/month=\$150, \$201-\$300/month=\$250, \$301-\$400/month=\$350, \$401-\$500/month=\$450, \$500+=\\$750. These mid-values were combined to create a variable that ranged from losses to gains. The variable reflected change in financial status during deployment with values ranging from negative \$750 (indicating loss) to positive \$750 (indicating gain).

Army satisfaction was also an independent variable and was measured in response to the question, "Overall, how satisfied are you with the Army as a way of life?" Likert-type responses ranged from "very dissatisfied"=1 to "very satisfied"=5. This question was not asked during the training phase survey.

Control Group

To compare the study group with a control group, a survey was administered to soldiers in the 29th Light Infantry Division who did not volunteer to go to the Sinai. The economic questions in this survey were similar to the questions in the survey of the study group. The control group survey was mailed to 120 senior soldiers in ranks E5 and above. The response rate was approximately 84% with 101 returned surveys.

Design and Analysis

Survey data collected during waves one and two were used to analyze financial gains/losses and their effect on career intentions. We used summary statistics to describe demographic, economic, and psychological variables of the RC and AC. We also compared financial variables between training and deployment phases. Finally, we compared results of the study group to a control group.

To determine the financial impact of the deployment experience on RC soldiers, hierarchical regression equations were used for training and deployment wave data. This regression procedure is appropriate because it controls for multicollinearity due to causal ordering among variables by partialling out shared variance (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). In our data, the monthly basic pay variable (calculated from rank and years of service) was related to variables of financial gain/loss and Army satisfaction (see Appendix A). All variables were tested for normality, outliers, and linearity. No variables violated these assumptions.

Wave one variables included career intention during the training phase as the dependent variable, and financial status, force component, race, marital status, and education as independent variables. Financial status during the training phase referred to the perceived gain/loss in finances compared to their financial status prior to volunteering for the MFO. Therefore, for the AC, this variable represented military pay and allowances at the time of data collection; for the RC, this variable represented the change in financial status from civilian earnings plus drill pay received from the pre-training to the training phase. We hypothesized that financial gain is positively associated with the intention to stay in the AC or RC until retirement, while statistically controlling for the effects of other explanatory variables (e.g., Army satisfaction, marital status, and education).

Wave two variables included career intention during the deployment phase as the dependent variable and change in financial status and Army satisfaction as independent variables. Other independent variables included force component, race, marital status, and education. These demographic data were previously collected during wave one and were match-merged with wave two data by social security numbers.

RESULTS AND DISCUSSION

Study Group Descriptive Statistics

Summary statistics for the study group are organized into three sections: 1) analysis of economic, psychological, and demographic variables, 2) comparison of AC and RC data, and 3) comparison of training and deployment data. Please note that percentages listed in the tables may not sum to 100% due to rounding error.

Economic, Demographic, and Psychological Variables

Base pay and allowances. Table 1 shows that the soldiers' typical basic monthly pay was between \$1,000 and \$1,500. The typical values of Basic Allowance for Quarters (BAQ), Basic Allowance for Subsistence (BAS), Hazard Duty Pay (HDP), Special Pay (SP), and "Other Monthly Pay" (OMP) were up to \$100 per month (Table 2, 3, 4, 5 and 6). Table 7 shows that typical total military earnings were up to \$200 per month. These amounts were earned as drill pay by the RC prior to their volunteering for the Sinai duty.

More soldiers (N=320) reported that they gained from volunteering for deployment compared to those (N=314) who perceived an overall loss from volunteering for deployment. The typical value of gain and loss was up to \$200 (Table 8).

Civilian employment. The data on civilian employment status revealed that 45% of RC volunteers were employed full-time and the remaining 55% were either unemployed, underemployed (employed for 20 hours or fewer per week), or were attending school. Specifically, 20% of the soldiers were unemployed, 13% were employed part-time, and 22% were in school at the time they decided to volunteer for the Sinai mission.

Analysis of civilian job experience suggested that most of the RC (72%) had worked for fewer than two years and only a few (3%) had worked for 10 or more years prior to deployment in the Sinai (Table 9). This low level of civilian employment experience is supported by the extent of civilian unemployment among the volunteers. For example, Table 10 shows that almost 49% or 160 of the 328 responding RC volunteers were unemployed and looking for civilian jobs in 1993 (the year prior to volunteering for the mission). Of those who were unemployed, most (61%) were unemployed for fewer than two weeks; some (approximately 12%) were unemployed for 13 or more weeks.

Table 11 shows that the typical civilian hours worked by RC soldiers were in the 31-40 range (39%), followed by those soldiers who worked 41-50 hours (26%). The civilian job tenure of the

RC was very low because almost 77% of the soldiers had worked for less than a year at their current jobs (Table 12). Consequently, their civilian earnings were also low, with the typical amount being only up to \$1,000 in 1993 (Table 13). Similarly, their weekly civilian earnings were low, with the typical value being in the \$301-\$500/week range (Table 14).

Demographics. The age distribution of the soldiers revealed that most of the RC soldiers were very young, junior in rank (E1 to E4), and unmarried. AC soldiers were mostly NCOs, older, married, and with dependent children. Approximately two-thirds of all soldiers were not married (63% were not married and 4% were separated) and only one-third were married (Table 15). Home ownership of the soldiers suggested that most (82%) did not own their homes (Table 15). The average (arithmetic mean) educational level of the soldiers was 4.23 or 1 to 2 years of college.

Career commitment. When asked about career intentions during deployment, most soldiers (56%) reported that their intentions to stay in the Army remained unchanged from the training phase. However, more soldiers said their intention to stay had increased (27%) than those who reported a decline in career intentions (5%) (Table 16).

Table 1

Self-Reported Basic Monthly Pay during Training (N = 390)

| Basic Pay \$/Month | Freq. | % |
|--------------------|-------|------|
| \$0 - \$500 | 8 | 2.1 |
| \$501 - \$1,000 | 45 | 11.5 |
| \$1,001 - \$1,500 | 236 | 60.5 |
| \$1,501 - \$2,000 | 60 | 15.4 |
| \$2,001 - \$3,000 | 41 | 10.5 |

Table 2

Self-Reported Basic Allowance for Quarters (BAQ) during Training (N = 278)

| BAQ \$/Month | Freq. | % |
|-----------------|-------|------|
| \$0 - \$100 | 100 | 36.0 |
| \$101 - \$200 | 12 | 4.3 |
| \$201 - \$300 | 37 | 13.3 |
| \$301 - \$400 | 50 | 18.0 |
| \$401 and above | 79 | 28.4 |

Table 3

Self-Reported Basic Allowance for Subsistence (BAS) during Training (N = 221)

| BAS \$/Month | Freq. | % |
|-----------------|-------|------|
| \$0 - \$100 | 138 | 62.4 |
| \$101 - \$200 | 52 | 23.5 |
| \$201 - \$300 | 26 | 11.8 |
| \$301 and above | 5 | 2.3 |

Table 4

Self-Reported Hazard Duty Pay (HDP) during Training (N = 210)

| HDP \$/Month | Freq. | % |
|-----------------|-------|------|
| \$0 - \$100 | 183 | 87.1 |
| \$101 - \$200 | 17 | 8.1 |
| \$201 - \$300 | 4 | 1.9 |
| \$301 and above | 6 | 2.9 |

Table 5

Self-Reported Special Pay (SP) during Training (N = 214)

| SP \$/Month | Freq. | % |
|-----------------|-------|------|
| \$0 - \$25 | 155 | 72.4 |
| \$26 - \$100 | 32 | 15.0 |
| \$101 - \$150 | 10 | 4.7 |
| \$151 - \$200 | 9 | 4.2 |
| \$201 and above | 8 | 3.7 |

Table 6

Self-Reported "Other Monthly Pay" (OMP) during Training (N = 182)

| OMP \$/Month | Freq. | % |
|-----------------|-------|------|
| \$0 - \$25 | 133 | 73.1 |
| \$26 - \$50 | 0 | 0.0 |
| \$51 - \$75 | 20 | 11.0 |
| \$76 - \$100 | 9 | 4.9 |
| \$101 and above | 20 | 11.0 |

Table 7

Self-Reported Total Military Earnings during Training (N = 407)

| Total Mil. \$/Month | Freq. | % |
|---------------------|-------|------|
| \$0 - \$200 | 139 | 34.2 |
| \$201 - \$400 | 107 | 26.3 |
| \$401 - \$1,000 | 58 | 14.3 |
| \$1,001 - \$1,500 | 27 | 6.6 |
| \$1,501 - \$2,000 | 35 | 8.6 |
| \$2,001 - \$3,000 | 33 | 8.1 |
| \$3,001 and above | 8 | 2.0 |

Table 8

Self-Reported Financial Gain and Loss during Training (N = 634)

| \$/Month | Freq. | % |
|------------------------|-------|------|
| Gain (<u>N</u> = 320) | | |
| \$0 - \$200 | 165 | 51.6 |
| \$201 - \$400 | 12 | 3.8 |
| \$401 - \$1,000 | 28 | 8.8 |
| \$1,001 - \$1,500 | 11 | 3.4 |
| \$1,501 - \$2,000 | 6 | 1.9 |
| \$2,001 and above | 98 | 30.6 |
| Loss (<u>N</u> = 314) | | |
| \$0 - \$200 | 204 | 65.0 |
| \$201 - \$400 | 14 | 4.5 |
| \$401 - \$1,000 | 21 | 6.7 |
| \$1,001 - \$1,500 | 15 | 4.8 |
| \$1,501 - \$2,000 | 9 | 2.9 |
| \$2,001 and above | 51 | 16.1 |

Table 9

Years of Civilian Service of RC Soldiers (N = 341)

| Years of Service | Freq. | % |
|------------------|-------|------|
| Less than 2 | 247 | 72.4 |
| 3 - 4 | 40 | 11.7 |
| 5 - 6 | 22 | 6.5 |
| 7 - 8 | 11 | 3.2 |
| 9 - 10 | 10 | 2.9 |
| 11 or more | 11 | 3.2 |

Table 10

1993 Civilian Unemployment of RC Soldiers (N = 328)

| Employment Status | Freq. | % |
|------------------------------|-------|------|
| Employed (<u>N</u> = 168) | | |
| Had job through 1993 | 127 | 75.6 |
| Not looking for job | 41 | 24.4 |
| Unemployed (<u>N</u> = 160) | | |
| Less than 2 weeks | 98 | 61.3 |
| 3 - 4 weeks | 18 | 11.3 |
| 5 - 6 weeks | 7 | 4.4 |
| 7 - 8 weeks | 6 | 3.8 |
| 9 - 10 weeks | 4 | 2.5 |
| 11 - 12 weeks | 7 | 4.4 |
| 13 or more weeks | 20 | 12.5 |

Table 11

1993 Civilian Hours Worked Per Week of RC Soldiers (N = 367)

| Hours/Week | Freq. | % |
|--------------|-------|------|
| 0 - 20 | 39 | 10.6 |
| 21 - 30 | 24 | 6.5 |
| 31 - 40 | 142 | 38.7 |
| 41 - 50 | 96 | 26.2 |
| 51 - 60 | 43 | 11.7 |
| 61 and above | 23 | 6.3 |

Table 12

1993 Civilian Job Tenure of RC Soldiers (N = 333)

| Weeks Worked/Year | Freq. | % |
|-------------------|-------|------|
| 0 - 26 | 67 | 20.1 |
| 27 - 52 | 256 | 76.9 |
| 53 - 78 | 9 | 2.7 |
| 79 and above | 1 | 0.3 |

Table 13

1993 Civilian Earnings of RC Soldiers (N = 51)

| Civilian \$/Year | Freq. | % |
|-------------------|-------|------|
| \$0 - \$1,000 | 14 | 27.5 |
| \$1,001 - \$2,000 | 13 | 25.5 |
| \$2,001 - \$3,000 | 12 | 23.5 |
| \$3,001 - \$4,000 | 5 | 9.8 |
| \$4,001 and above | 7 | 13.7 |

Table 14

1993 Civilian Weekly Earnings of RC Soldiers (N = 339)

| Civilian \$/Week | Freq. | % |
|-------------------|-------|------|
| \$0 - \$100 | 17 | 5.0 |
| \$101 - \$200 | 65 | 19.2 |
| \$201 - \$300 | 86 | 25.4 |
| \$301 - \$500 | 95 | 28.0 |
| \$501 - \$800 | 42 | 12.4 |
| \$801 - \$1,200 | 17 | 5.0 |
| \$1,201 and above | 17 | 5.0 |

Table 15

Marital Status and Home Ownership during Training

| Response | Freq. | % |
|----------------------------------|-------|------|
| Marital Status (<u>N</u> = 485) | | |
| Not married | 306 | 63.1 |
| Currently married | 159 | 32.8 |
| Separated | 20 | 4.1 |
| Home Ownership (<u>N</u> = 486) | | |
| Yes, own home | 86 | 17.7 |
| No, do not own | 400 | 82.3 |

Table 16

Self-Reported Impact of Deployment on Changes in Career Intentions during Training (N = 488)

| Change in Career Intentions | Freq. | % |
|-----------------------------|-------|------|
| Increased | 133 | 27.3 |
| Decreased | 27 | 5.5 |
| Unchanged | 274 | 56.1 |
| Don't Know | 54 | 11.1 |

Comparative Statistics between the AC and RC

Military experience. The survey respondents included junior enlisted, noncommissioned officers, and commissioned officers from both the AC and RC. The number of soldiers was 634, with 80% RC soldiers and 20% AC soldiers. The rank structure revealed that 63% of the soldiers were junior enlisted, 30% were Noncommissioned Officers (NCOs), and the remaining 7% were officers. This distribution of ranks represents the population of all soldiers in the peacekeeping assignment. While the officers and NCOs were equally divided between the RC and AC, junior enlisted soldiers were drawn mostly from the RC (61% vs. 2% from the AC).

Base pay and allowances. Table 17 shows that while the typical monthly basic pay of the AC and RC was in the \$1,001-\$1,500 range, most AC soldiers earned more than this amount and RC soldiers earned much less. 22% of the AC earned \$1,501 to \$2,000 per month compared to 7% of the RC in this range. This is because, as noted earlier, AC soldiers were more senior in rank than RC soldiers.

A similar pattern of results was found with the BAQ variable. The reported BAQ values were higher for the AC than the RC. For example, Table 18 shows that most RC soldiers (41%) reported getting the lowest (up to \$100) BAQ whereas most AC soldiers (56%) reported being in the highest bracket (\$401 and above). Table 19 shows that typical BAS values were greater for the AC than the RC (\$101-\$200 range vs. \$0-\$100). In contrast, Hazard Duty Pay and Special Pay values appear more evenly distributed for the two groups (Tables 20 and 21). Values for "Other Monthly Pay," shown in Table 22, are small (less than \$100) and most RC soldiers reported this pay in the smallest bracket (less than \$25).

Table 23 shows that total military earnings of AC soldiers are considerably higher than military earnings of RC soldiers because of seniority in rank. 91% of AC soldiers reported \$1,001 and above but only 26% of RC soldiers reported earnings at this level. Table 24 shows the distribution of financial gains and losses from training. These results reveal that the number of gainers (N=302) during the training wave exceeded the number of losers (N=293) and gains were greater for the RC than the AC. For example, most AC soldiers (94%) were concentrated in the lowest gain bracket of \$0-\$200 compared to 43% of RC soldiers in this bracket. On the other hand, many (37%) RC soldiers reported gaining \$2,001 or more and approximately 4% of AC soldiers reported being in this bracket. The RC volunteers who reported gains from training are likely to be those who were unemployed and were looking for civilian jobs. In addition, most RC volunteers (70%) lost the smallest amounts (\$0-\$200) whereas most AC soldiers lost the larger amounts (\$201 and above). To sum up, the RC gained more and lost less relative to the AC.

Home ownership and marital status. The upper panel of Table 25 shows that home ownership was greater for the AC than the RC (29% vs. 16%). The lower panel of this table shows that a greater percentage of AC soldiers were married relative to RC soldiers (58% vs. 28%). These statistics correspond to demographic variables such as the age distribution of RC and AC soldiers.

Career commitment. Table 26 shows that the probability of career intentions for most respondents during the training phase remained unchanged (68% of the AC and 53% of the RC). However, the probability of increased retention was greater for the RC than the AC (32% vs. 12%). The probability of decreased retention was greater for the AC than the RC (11% vs. 4%). Therefore, RC soldiers perceived that they were more likely to stay in the Army after their Sinai experience relative to AC soldiers.

Table 17

Self-Reported Basic Monthly Pay of AC and RC during Training

| Basic Pay \$/Month | AC | | RC | |
|--------------------|-------|-------|-------|-------|
| | Freq. | % | Freq. | % |
| \$0 - \$500 | - | - | 7 | 2.4 |
| \$501 - \$1,000 | - | - | 43 | 14.9 |
| \$1,001 - \$1,500 | 38 | 46.9 | 185 | 64.2 |
| \$1,501 - \$2,000 | 25 | 30.9 | 32 | 11.1 |
| \$2,001 - \$3,000 | 18 | 22.2 | 21 | 7.3 |
| Total (N) | 81 | 100.0 | 288 | 100.0 |

Table 18

Self-Reported Basic Allowance for Quarters (BAQ) of AC and RC during Training

| BAQ \$/Month | AC | | RC | |
|-----------------|-------|-------|-------|-------|
| | Freq. | % | Freq. | % |
| \$0 - \$100 | 9 | 14.8 | 85 | 41.5 |
| \$101 - \$200 | - | - | 12 | 5.9 |
| \$201 - \$300 | 4 | 6.6 | 33 | 16.1 |
| \$301 - \$400 | 14 | 23.0 | 36 | 17.6 |
| \$401 and above | 34 | 55.7 | 39 | 19.0 |
| Total (N) | 61 | 100.0 | 205 | 100.0 |

Table 19

Self-Reported Basic Allowance for Subsistence (BAS) of AC and RC during Training

| BAS \$/Month | AC | | RC | |
|-----------------|-------|-------|-------|-------|
| | Freq. | % | Freq. | % |
| \$0 - \$100 | 14 | 25.0 | 118 | 76.6 |
| \$101 - \$200 | 26 | 46.4 | 22 | 14.3 |
| \$201 - \$300 | 14 | 25.0 | 11 | 7.1 |
| \$301 and above | 2 | 3.6 | 3 | 1.9 |
| Total (N) | 56 | 100.0 | 154 | 100.0 |

Table 20

Self-Reported Hazard Duty Pay (HDP) of AC and RC during Training

| HDP \$/Month | AC | | RC | |
|-----------------|-------|-------|-------|-------|
| | Freq. | % | Freq. | % |
| \$0 - \$100 | 27 | 84.4 | 148 | 87.1 |
| \$101 - \$200 | 4 | 12.5 | 13 | 7.6 |
| \$201 - \$300 | - | - | 4 | 2.4 |
| \$301 and above | 1 | 3.1 | 5 | 2.9 |
| Total (N) | 32 | 100.0 | 170 | 100.0 |

Table 21

Self-Reported Special Pay (SP) of AC and RC during Training

| SP \$/Month | AC | | RC | |
|-----------------|-------|-------|-------|-------|
| | Freq. | % | Freq. | % |
| \$0 - \$25 | 23 | 62.2 | 122 | 73.5 |
| \$26 - \$100 | 10 | 27.0 | 22 | 13.3 |
| \$101 - \$150 | 3 | 8.1 | 7 | 4.2 |
| \$151 - \$200 | 1 | 2.7 | 7 | 4.2 |
| \$201 and above | - | - | 8 | 4.8 |
| Total (N) | 37 | 100.0 | 166 | 100.0 |

Table 22

Self-Reported "Other Monthly Pay" (OMP) of AC and RC during Training

| OMP \$/Month | AC | | RC | |
|-----------------|-------|-------|-------|-------|
| | Freq. | % | Freq. | % |
| \$0 - \$25 | 15 | 50.0 | 111 | 77.1 |
| \$26 - \$50 | 0 | 0.0 | 0 | 0.0 |
| \$51 - \$75 | 9 | 30.0 | 10 | 6.9 |
| \$76 - \$100 | 2 | 6.7 | 7 | 4.9 |
| \$101 and above | 4 | 13.3 | 16 | 11.1 |
| Total (N) | 30 | 100.0 | 144 | 100.0 |

Table 23

Self-Reported Total Military Earnings of AC and RC during Training

| Total Mil. \$/Month | AC | | RC | |
|---------------------|-------|-------|-------|-------|
| | Freq. | % | Freq. | % |
| \$0 - \$200 | 2 | 2.5 | 132 | 43.1 |
| \$201 - \$400 | 1 | 1.3 | 98 | 32.0 |
| \$401 - \$1,000 | 4 | 5.0 | 50 | 16.3 |
| \$1,001 - \$1,500 | 19 | 23.8 | 8 | 2.6 |
| \$1,501 - \$2,000 | 24 | 30.0 | 8 | 2.6 |
| \$2,001 - \$3,000 | 27 | 33.8 | 6 | 2.0 |
| \$3,001 and above | 3 | 3.8 | 4 | 1.3 |
| Total (<u>N</u>) | 80 | 100.0 | 306 | 100.0 |

Table 24

Self-Reported Financial Gain and Loss of AC and RC during Training

| \$/Month | AC | | RC | |
|--------------------|-------|-------|-------|-------|
| | Freq. | % | Freq. | % |
| Financial Gain | | | | |
| \$0 - \$200 | 50 | 94.3 | 107 | 43.0 |
| \$201 - \$400 | - | - | 11 | 4.4 |
| \$401 - \$1,000 | 1 | 1.9 | 25 | 10.0 |
| \$1,001 - \$1,500 | - | - | 9 | 3.6 |
| \$1,501 - \$2,000 | - | - | 5 | 2.0 |
| \$2,001 and above | 2 | 3.8 | 92 | 36.9 |
| Total (<u>N</u>) | 53 | 100.0 | 249 | 100.0 |
| Financial Loss | | | | |
| \$0 - \$200 | 32 | 46.4 | 158 | 70.5 |
| \$201 - \$400 | 8 | 11.6 | 6 | 2.7 |
| \$401 - \$1,000 | 6 | 8.7 | 12 | 5.4 |
| \$1,001 - \$1,500 | 11 | 15.9 | 2 | 0.9 |
| \$1,501 - \$2,000 | 2 | 2.9 | 7 | 3.1 |
| \$2,001 and above | 10 | 14.5 | 39 | 17.4 |
| Total (<u>N</u>) | 69 | 100.0 | 224 | 100.0 |

Table 25

Home Ownership and Marital Status of AC and RC during Training

| Response | AC | | RC | |
|----------------------------|-------|-------|-------|-------|
| | Freq. | % | Freq. | % |
| Do you own a home? | | | | |
| Yes | 26 | 29.2 | 57 | 15.6 |
| No | 63 | 70.8 | 309 | 84.4 |
| Total (N) | 89 | 100.0 | 366 | 100.0 |
| Are you currently married? | | | | |
| Yes | 52 | 58.4 | 101 | 27.7 |
| No | 33 | 37.1 | 249 | 68.2 |
| Yes, Separated | 4 | 4.5 | 15 | 4.1 |
| Total (N) | 89 | 100.0 | 365 | 100.0 |

Table 26

Self-Reported Impact of Volunteering by AC and RC on Army Career Intentions during Training

| Change in Career Intentions | AC | | RC | |
|-----------------------------|-------|-------|-------|-------|
| | Freq. | % | Freq. | % |
| Increased | 11 | 12.2 | 117 | 31.8 |
| Decreased | 10 | 11.1 | 14 | 3.8 |
| Unchanged | 61 | 67.8 | 194 | 52.7 |
| Don't Know | 8 | 8.9 | 43 | 11.7 |
| Total (N) | 90 | 100.0 | 368 | 100.0 |

Comparative Statistics between Training and Deployment Phases

Economic variables. Table 27 shows that the summed average financial gain of all soldiers (AC and RC) was greater during the training phase than corresponding gains during the deployment phase (\$599.45/month vs. \$319.91/month). This table also shows that AC soldiers were net losers (by \$102.31/month) for the overall mission because they gained \$147.09 (\$45.40 + \$101.69) during the training phase, but lost \$249.40 (\$200.29 vs. \$49.11) during the deployment phase. On the other hand, RC soldiers were net gainers (by \$335.68/month) during

the overall mission because they gained \$722.27 (\$554 + \$218.22) during the training phase, but lost \$386.59 (\$287.42 + \$99.17) during the deployment phase.

Table 28 shows that perceived financial gains during training were greater for the RC than the AC. For example, while only 5% of the AC reported monthly gains of \$501/month or more, almost 50% of the RC reported this level of gain. Greater gains made by the RC can be attributed to receiving higher amounts of basic military pay and allowances compared to the drill pay received as part of reserve status, plus civilian earnings. As noted earlier, 55% of RC soldiers were either unemployed, underemployed, or in school so their civilian earnings losses were not substantive. The preceding outcome was reversed during the deployment phase because financial gains were greater for the AC than the RC. The incremental gains to the AC during deployment were due to the receipt of additional allowances such as foreign duty pay by the enlisted soldiers. These allowances were not paid to AC soldiers during training (prior to deployment in the Sinai).

Table 29 shows the results of the perceived financial losses to AC and RC soldiers. The AC reported greater losses during training compared to the RC (26.8% vs. 5.2% losses in the \$101-\$500 range and 42.3% vs. 25.4% losses in the \$501+ range). Greater financial losses to AC soldiers are attributed to the loss of jump duty pay that was received by most of these soldiers who were deployed from the 82nd Airborne. Losses to the RC are attributed to volunteers who had civilian jobs which were lost when they volunteered for the mission. As noted earlier, almost 45% of RC soldiers were employed full-time and an additional 13% were employed part-time.

Calculation of the average (arithmetic mean) net effect of financial gains and losses revealed that, during the training phase, the RC made a net gain (gain minus loss), and the AC had a net loss. For example, the RC had a monthly average gain of \$163.74 (\$298.58 gain minus \$134.84 loss) and the AC had an average loss of \$122.61 (\$30.91 gain minus \$153.52 loss). During the deployment phase, both components made average net financial gains. These were \$119.05 (\$218.22 minus \$99.17) for the RC and \$52.58 (\$101.69 minus \$49.11) for the AC. Therefore, the deployment phase was financially beneficial to both the groups of soldiers.

Table 27

Comparison of Mean Gains and Losses during Training and Deployment Phases

| Phase | AC | | | | RC | | | |
|------------|---------|----|---------|----|---------|-----|---------|-----|
| | Gain \$ | | Loss \$ | | Gain \$ | | Loss \$ | |
| | M | n | M | n | M | n | M | n |
| Training | 45.40 | 55 | 200.29 | 71 | 554.05 | 233 | 287.42 | 207 |
| Deployment | 101.69 | 59 | 49.11 | 56 | 218.22 | 225 | 99.17 | 241 |

Table 28

Comparison of Monthly Financial Gains during Training and Deployment Phases

| | AC | | RC | |
|----------------------|----------------------|---------------------|-----------------------|----------------------|
| | Training (n = 55) | Deploy. (n = 36) | Training (n = 449) | Deploy. (n = 195) |
| Gain \$/Month | % | % | % | % |
| Less than \$100 | 94.5 | 27.8 | 41.8 | 17.4 |
| \$101 - \$500 | 0.0 | 55.6 | 8.4 | 43.6 |
| \$501 or more | 5.5 | 8.3 | 49.8 | 6.7 |
| Don't know amount/NA | * | 8.3 | * | 32.3 |

* = Question not asked during training survey

NA = Not applicable

Table 29

Comparison of Monthly Financial Losses during Training and Deployment Phases

| | AC | | RC | |
|----------------------|----------------------|---------------------|-----------------------|----------------------|
| | Training (n = 71) | Deploy. (n = 54) | Training (n = 224) | Deploy. (n = 203) |
| Loss \$/Month | % | % | % | % |
| Less than \$100 | 31.0 | 57.4 | 69.2 | 58.6 |
| \$101 - \$500 | 26.8 | 35.2 | 5.2 | 19.8 |
| \$501 or more | 42.3 | 0.0 | 25.4 | 3.4 |
| Don't know amount/NA | * | 7.4 | 0.2 | 18.3 |

* = Question not asked during training survey

NA = Not applicable

Career commitment. Table 30 shows the data for career intentions of AC and RC soldiers. The data for the training phase revealed that career intentions remained unchanged for most of the soldiers (67.4% for the AC vs. 52.7% for the RC). During the training phase, RC soldiers reported they were more likely to stay in the Army until retirement compared to AC soldiers (31.9% vs. 12.0%). During the deployment phase, perceived career commitment decreased considerably compared to the training phase for both components.

Table 30

Comparison of Changes in Army Career Intentions during Training and Deployment Phases

| Response | AC | | RC | |
|------------|----------------------|---------------------|-----------------------|----------------------|
| | Training (n = 92) | Deploy. (n = 67) | Training (n = 370) | Deploy. (n = 284) |
| | % | % | % | % |
| Increased | 12.0 | 6.0 | 31.9 | 17.6 |
| Decreased | 12.8 | 38.8 | 3.8 | 28.9 |
| Unchanged | 67.4 | 49.3 | 52.7 | 43.3 |
| Don't know | 8.7 | 6.0 | 11.6 | 10.2 |

Study Group Regression Results

Career Commitment

Table 31 provides descriptive statistics of the independent variables used in the regression analyses. Table 32 shows the results of two separate regression equations for predicting career intentions--one for each phase of the MFO (i.e., training and deployment). These results are discussed below.

Financial status (gain or loss) was entered in block one using the training phase data to predict career intentions. The results reveal that financial gain accounts for a statistically significant portion of variance in explaining career intentions. Thus, increases in financial gains from the pre-training to training phase are associated with greater likelihood of remaining in the Army until retirement.

Army satisfaction (Block 2 variable) was not included in the training phase regression equation because this question was not asked as part of the training survey. To accurately compare training and deployment phase results, the next set of variables are described as block three variables. Independent variables entered in block three were basic monthly pay and force component (RC=1; AC=0). Basic monthly pay was calculated from the Army Times pay tables for 1995 by using two institutional variables, rank and years of service. We hypothesized that, basic monthly pay, and hence experience, would impact on subsequent career commitment. Block three variables added significant variance above and beyond the financial explanatory variable in block one. However, only force component (i.e., RC) had a significant positive, linear, relationship with career intentions. Thus, during the training phase, RC soldiers, but not AC soldiers, reported that they were more likely to remain in the military until retirement. It is important to note that the criterion variable in the equation refers to career intention, not behavior, so that the results are only tentative until we examine data for career behavior. Career behavior data will be collected in post-deployment surveys.

Table 31

Descriptive Statistics of Variables Used in Regression Equations

| Variables | <u>N</u> | <u>M</u> | Std. Dev. | Minimum | Maximum |
|---|----------|----------|--------------|----------|---------|
| <u>Dependent</u> | | | | | |
| Intent to Stay, Training | 433 | 2.25 | 0.56 | 1.0 | 3.0 |
| Intent to Stay, Deployment | 330 | 1.83 | 0.70 | 1.0 | 3.0 |
| <u>Independent</u> | | | | | |
| Financial Gain/Loss, Training \$/month | 357 | 174.74 | 1,024.72 | -3,666.7 | 3900.0 |
| Financial Gain/Loss, Deployment \$/month | 320 | 97.50 | 362.56 | -750.0 | 750.0 |
| Army Satisfaction | 363 | 3.23 | 1.15 | 1.0 | 5.0 |
| Basic Monthly Pay | 328 | 1,442.08 | 514.61 | 957.6 | 4,313.1 |
| Education* | 481 | 4.23 | 2.11 | 1.0 | 10.0 |

* 1=some high school, no diploma; 10=graduate or professional degree.

Table 32

Regression Results for Career Intentions during Training and Deployment Phases

| Independent Variables | Training Phase (<u>N</u> = 209) | Deployment Phase (<u>N</u> = 187) |
|-----------------------|--|--|
| <u>Block 1</u> | $R^2 = .036, F(1,207) = 7.732^*$ $\beta = .190, t = 2.781$ | $R^2 = .073, F(1,185) = 14.639^*$ $\beta = .271, t = 3.826^*$ |
| <u>Block 2</u> | NA | $\Delta R^2 = .047, F(1,184) = 9.781^*$ $\beta = .219, t = 3.127^*$ |
| Army Satisfaction | NA | |
| <u>Block 3</u> | $\Delta R^2 = .072, F(2,205) = 8.273^*$ $\beta = .275, t = 4.027^*$ | $\Delta R^2 = .017, \text{n.s.}$ $\beta = .132, \text{n.s.}$ |
| RC | | |
| Monthly Pay | $\beta = .102, \text{n.s.}$ | $\beta = -.005, \text{n.s.}$ |
| <u>Block 4</u> | $\Delta R^2 = .017, \text{n.s.}$ $\beta = .043, \text{n.s.}$ | $\Delta R^2 = .015, \text{n.s.}$ $\beta = -.030, \text{n.s.}$ |
| Race | | |
| Marital Status | $\beta = -.131, \text{n.s.}$ | $\beta = .040, \text{n.s.}$ |
| Education | $\beta = .016, \text{n.s.}$ | $\beta = .141, \text{n.s.}$ |
| <u>R</u> ² | .125, $F(7,201) = 4.797^*$ | .153, $F(6,180) = 4.606^*$ |

Note. Standardized regression coefficients are shown.

* $p < .05$.

NA = Not applicable, question not asked during the training survey.

Independent variables entered in block four were demographic variables: race, marital status, and level of educational attainment. This set of variables did not contribute significant variance to the prediction of career intentions. Therefore, these demographic variables were not crucial in explaining career intentions.

For the deployment phase analysis, the financial gain/loss variable was also entered in block one to predict career intentions. The results reveal that this financial variable accounts for a significant portion of variance in explaining career intention during deployment. Thus, increases in financial gains during the deployment phase are associated with a greater likelihood of remaining in the military until retirement.

Army satisfaction, entered in block two, explained significant variance in addition to the financial independent variable in block one. This variable had a positive, linear relationship with career commitment. Thus, during the deployment phase, soldiers satisfied with Army life indicated they were more likely to remain in the Army until retirement.

Independent variables entered in block three were basic monthly pay and force component (RC). Block three variables did not add significant variance in excess of the Army satisfaction and change in financial status variables. During the deployment phase, force component does not have a significant linear relationship with career intentions. This result differs from the result obtained during the training phase. In the deployment data analysis, Army satisfaction was included as an independent variable. To identify potential reasons for the different results, force component and monthly pay were re-analyzed, excluding Army satisfaction from the second equation. This structure parallels the training phase analysis. The results indicated that force component did not have a significant relationship with career intentions. However, when Army satisfaction was included in the equation, the regression coefficient for RC increased. It appears that force component was suppressed by Army satisfaction and hence, does not predict career intentions at the time of deployment. When RC soldiers faced the realities of deployment, their career commitment declined substantially and was not different from career commitment levels of AC soldiers.

The independent variables entered in block four were demographic variables of race, marital status, and educational attainment. This set of variables did not contribute significant variance to the prediction of career intentions.

Test of Equality of Regression Coefficients. Separate regression equations were estimated for the RC and AC during the training and deployment phases to test the null hypothesis that the parameters are not different for the AC and RC. Regression coefficients from each equation were compared to the overall model to test for equivalence of the coefficients across the two regressions. In the original model, force component was included as a dummy-coded variable. Since we estimated separate equations for each component, this variable was no longer appropriate. Therefore, the pooled equation was re-estimated by dropping the component variable. Table 33 summarizes the results presented below.

Using training data, the RC analysis showed that financial status (gain or loss) and basic monthly pay variables account for a significant portion of variance in explaining career intentions. In the original model, monthly pay was not a significant predictor. The AC analysis did not result in significant predictors of career intentions. Note that while the coefficients and overall R^2 are larger than the RC analysis, the effect size is small ($F = 1.814$). The non-significant results may be attributed to the small sample size in the AC analysis ($n = 34$). In the original model, we aggregated the two components due to insufficient sample size for AC data and created a dummy variable to represent force component.

Table 33

Comparison of Regression Coefficients in RC and AC Data Subsets

| Independent Variables | Overall Model (N = 214) | RC Model (n = 175) | AC Model (n = 34) |
|--------------------------|----------------------------|-----------------------|----------------------|
| Training Phase Analysis | | | |
| Constant | 2.074 | 2.026 | 1.947 |
| <u>Block 1</u> | $R^2 = .037^*$ | $R^2 = .028^*$ | $R^2 = .106$ |
| Financial Status | $\beta = .192^*$ | $\beta = .168^*$ | $\beta = .326$ |
| <u>Block 2</u> | $\Delta R^2 = .001$ | $\Delta R^2 = .025^*$ | $\Delta R^2 = .015$ |
| Monthly Pay | $\beta = .032$ | $\beta = .158^*$ | $\beta = -.124$ |
| <u>Block 3</u> | $\Delta R^2 = .036^*$ | $\Delta R^2 = .012^*$ | $\Delta R^2 = .086$ |
| Race | $\beta = .074$ | $\beta = .021$ | $\beta = .170$ |
| Marital Status | $\beta = -.185^*$ | $\beta = -.115$ | $\beta = -.106$ |
| Education | $\beta = .017$ | $\beta = -.000$ | $\beta = .224$ |
| <u>R²</u> | .074* | .065* | .208 |
| <u>F</u> | $F(5,208) = 3.324$ | $F(5,169) = 2.337$ | $F(5,28) = 1.467$ |
| <u>Test of Stability</u> | | | |
| Std. Error | .546 | .535 | .497 |
| Residual Sum of Squares | 61.917 | 48.370 | 6.922 |

Table 33 Continued

Comparison of Regression Coefficients in RC and AC Data Subsets

| Independent Variables | Overall Model (N = 214) | RC Model (n = 175) | AC Model (n = 34) |
|-------------------------------------|---|---|---------------------------------------|
| Deployment Phase Analysis | | | |
| Constant | 1.354 | 1.435 | .583 |
| <u>Block 1</u> Financial Status | $R^2 = .081^*$ $\beta = .285^*$ | $R^2 = .083^*$ $\beta = .288^*$ | $R^2 = .000$ $\beta = -.018$ |
| <u>Block 2</u> Army Satisfaction | $\Delta R^2 = .049^*$ $\beta = .224^*$ | $\Delta R^2 = .049^*$ $\beta = .224^*$ | $\Delta R^2 = .166$ $\beta = .407$ |
| <u>Block 3</u> Monthly Pay | $\Delta R^2 = .002$ $\beta = -.052$ | $\Delta R^2 = .003$ $\beta = -.056$ | $\Delta R^2 = .042$ $\beta = .212$ |
| <u>Block 4</u> Race | $\Delta R^2 = .014$ $\beta = -.007$ | $\Delta R^2 = .010$ $\beta = -.028$ | $\Delta R^2 = .149$ $\beta = .016$ |
| Marital Status | $\beta = .007$ | $\beta = .023$ | $\beta = .180$ |
| Education | $\beta = .136$ | $\beta = .107$ | $\beta = .712$ |
| R^2 | .146* | .144* | .357 |
| F | $F(6,182) = 5.185$ | $F(6,156) = 4.387$ | $F(6,17) = 1.575$ |
| <u>Test of Stability</u> | | | |
| Std. Error | .673 | .684 | .537 |
| Residual Sum of Squares | 82.428 | 72.890 | 4.901 |

* p < .05

Using deployment data, the RC analysis showed that financial status and Army satisfaction variables account for a significant portion of variance in explaining career intentions. These results are consistent with the original model. The AC analysis did not result in significant predictors of career intentions. The AC data set for the deployment phase also had a small sub-sample size (n=24).

To determine the equivalence of the two regressions, we conducted a test of stability using the Chow Test (1960; as cited in Maddala, 1977). This analysis tests the hypothesis that some or all of the regression coefficients are different in subsets of the data. The formula for the F test is

$$F = (RRSS - URSS / (k + 1)) / (URSS / (n1 + n2 - 2k - 2))$$

where

RRSS = restricted residual sum of squares obtained from a pooled regression of the entire data;

URSS = unrestricted residual sum of squares obtained from sub-samples of AC and RC data;

k = number of predictors;

n1 = sample size of subset 1; and

n2 = sample size of subset 2.

To obtain RRSS, we estimated the overall model, excluding the force component variable. By dropping the force component variable, the sample size and regression coefficients in the re-estimated pooled regression changed slightly from the original model. RRSS constrains the parameters to be the same for the AC and RC. URSS allows the parameters to differ across the sub-samples.

Results for the test of stability are reported in Table 6. Using the training phase data, we find that the regression coefficients for the two sub-samples (RC and AC) are significantly different from each other. Therefore, we conclude that the behavioral patterns of these two soldier groups are significantly different during the training phase and should be treated separately for the analysis. Using the deployment phase data, we find that the regression coefficients for the two sub-samples are stable. Therefore, we fail to reject the hypothesis that the coefficients are equal.

This finding is compatible with results of the overall model reported earlier. The AC and RC soldiers behavioral responses that were related to reenlistment intentions were similar during the deployment phase. In view of this stability, we conclude that it is reasonable to combine these two samples to infer their behavioral responses.

In summary, our analysis of equality of regression coefficients revealed that the Ac and RC soldiers were different groups during the training phase, but the were not significantly different during the more critical deployment phase. Therefore, we conclude that one can consider the pooled data analysis for deployment phase to be representative of the sub-groups of soldiers.

Conclusions and future research on career commitment and earnings. The model explained variance in career intentions during the training phase ($R^2=.125$, $p < .05$) and the deployment phase ($R^2=.153$, $p < .05$). However, we are less interested in the total variance explained because we did not have a complete model with several other relevant variables. Other variables could explain greater variance in career commitment, but were not included in the study because we did not have the required data. We are specifically interested in the regression coefficients of existing variables used in the model.

The preceding results indicate that the financial gains perceived by the soldiers were directly related to the career intentions of the soldiers to stay in the Reserve or the Active component until their retirement. This result was confirmed for both the training phase and the deployment phases. In addition, during the deployment phase, satisfaction with Army life predicted career intention above and beyond the effect of financial gain. This result indicates that Army commitment can also be increased by non-financial means such as job or family satisfaction.

Data for veteran volunteers who returned from the Sinai will be collected in post-deployment follow-up surveys conducted at the end of 1995, 1996, and 1997. Future research will include analyses of reenlistment behavior of the soldiers as well as their plans to stay in the RC until retirement.

Civilian Earnings

To predict civilian earnings of RC soldiers, we estimated an equation with civilian earnings as the dependent variable and explanatory variables such as civilian education of the soldier, marital status, the number of dependents, years of service in the RC, age, and civilian experience. We hypothesized that civilian earnings will increase with an increase in education, civilian job experience, or age. Listwise deletion of missing data reduced the number of observations to only 80. The results revealed that the R-squared value was approximately .06 and none of the regression coefficients was significant. Therefore, these results are not reported.

Financial Status

Table 34 shows regression results for predicting financial status during training. Hierarchical regression was used to determine if any set of variables explained significant variance in financial status (gain or loss). At level one, basic monthly pay, monthly hazard pay, basic allowances for quarters, allowance for subsistence, special pay, and other monthly pay were entered. This set of variables did not contribute significant variance in the dependent variable. However, the signs for the betas showed that basic monthly pay and monthly hazard pay were more strongly related to financial status than other "allowance" variables.

At level two, total civilian earnings, years of service, and rank were entered as predicted. A significant, linear, negative relationship was found between total civilian earnings and financial status. One unit increase in total civilian earnings is associated with a .03 decrease in financial status. Therefore, RC soldiers who had civilian jobs appear to have lost financially by volunteering for the mission. At level three, education and marital status were entered. No significant relationships were found.

Home Ownership

Home ownership is the largest economic asset held by an individual or a family. Of the 313 soldiers who responded to the question on home ownership, only 21% of the soldiers owned their homes. A greater percentage of AC soldiers owned homes than RC soldiers (30% vs. 16%) because they were older, married, and had higher ranks relative to RC.

Home ownership was analyzed by estimating a logit model because the dependent variable was binary (i.e., soldiers either owned homes or did not own homes). Table 35 shows that home ownership was positively and significantly ($p < .01$) associated with family earnings (i.e., earnings of the soldier and his spouse). Also, RC soldiers were significantly less likely to own a house relative to AC. An increase in soldier's earnings or his education was positively associated with home ownership, but this relationship was not statistically significant.

Table 34

Regression Results for Predicting Financial Status during Training

| Independent Variables | Regr. Coeff. (<u>N</u> = 56) |
|----------------------------|-------------------------------|
| <u>Block 1</u> | |
| Basic Monthly Pay | b = .545 |
| Other Mo. Pay | b = .560 |
| Mo. Hazard Pay | b = 4.273 |
| Mo. Allow. for subsistence | b = .922 |
| Basic Allow. for Quarters | b = .677 |
| Special Pay | b = 1.014 |
| <u>Block 2</u> | |
| Total Civilian Earnings | b = -.030* |
| Years of Military Service | b = 19.180 |
| Rank | b = -312.046 |
| <u>Block 3</u> | |
| Education | b = -12.352 |
| Marital Status | b = -12.284 |
| R ² | .210 |
| F | 1.068 |

Note. Raw regression coefficients are shown in this table.

* p < .05.

Table 35

Logit Model Results of Home Ownership (N=313)

| Independent Variables | Coefficient | Probability |
|-----------------------|-------------|-------------|
| Financial gain/loss | .000043 | .775 |
| Family earnings | .0005 | .001 |
| RC | -.8004 | .018 |
| Soldier's education | .0438 | .528 |
| Constant | -2.0558 | .001 |

Control Group Descriptive Statistics

In this set of analyses, control group and study group summary statistics were compared for a subset of variables. These descriptive results are reported below.

Demographics

Statistics show that the study group is further along in both family and career. More control group soldiers were married compared to the study group (80.2% vs. 31.7%). The average (arithmetic mean) number of children was also greater for control group soldiers (mean=1.35) compared to study group soldiers (mean=.61). The control group has reached a higher average educational level (mean of 6.85 equivalent to 3 or 4 years of college) relative to the study group (mean of 4.13 equivalent to 1 or 2 years of college). Finally, all control group soldiers were NCO or officers compared to 28.6% of the study group.

Civilian Earnings

Table 36 shows that most control group soldiers had considerably higher civilian earnings compared to the earnings of the study group soldiers (\$41,100/year vs. \$16,670/year). Since mean values are influenced by extreme earnings of a few soldiers, median earnings are more representative of the groups. Median earnings indicate that one-half of the soldiers had income higher than the median value and another one-half had earnings lower than the median. The median earnings of the control and the study group was \$36,944/year and \$15,212/year, respectively. The lower mean and median earnings of the study group reflect the fact that many of these soldiers were either unemployed, underemployed, or in school.

Since the control group soldiers held higher ranks as noncommissioned officers, we sorted the study group soldiers in these same ranks to compare their earnings. Table 37 shows that the study group soldiers' earnings were lower for the same ranks of soldiers.

In future research, we will attempt to analyze growth rates of civilian earnings for volunteers and non-volunteers. It is likely that the growth rate of earnings for volunteers would be higher and consequently would surpass the earnings of non-volunteers over time.

Spouse Earnings

Table 38 shows that mean spouse earnings of the control group soldiers were also higher than spouse earnings of the study group soldiers (\$23,115 vs. \$10,418). The information contained in Table 38 does not include the unemployed. Similarly, median spouse earnings of the control and the study group were \$25,000 and \$5,200, respectively. We conclude that the non-volunteer group did not volunteer for the mission because their individual and family earnings were substantially higher than corresponding values for the study group, and they would have lost financially by volunteering.

Table 36

Comparison of Control Group and Study Group Civilian Earnings

| (\$/Year) | Control Group (N = 85) | | Volunteer Group (N = 285) | |
|---------------------|---------------------------|----------|------------------------------|----------|
| | Freq. | % | Freq. | % |
| \$0 - \$1,000 | 0 | 0.0 | 14 | 4.9 |
| \$1,000 - \$3,000 | 0 | 0.0 | 25 | 8.8 |
| \$3,001 - \$6,000 | 0 | 0.0 | 28 | 9.8 |
| \$6,001 - \$10,000 | 2 | 2.4 | 31 | 10.9 |
| \$10,001 - \$15,000 | 1 | 1.2 | 42 | 14.7 |
| \$15,001 - \$25,000 | 17 | 20.0 | 88 | 30.9 |
| \$25,001 - \$35,000 | 20 | 23.5 | 35 | 12.3 |
| \$35,001 - \$45,000 | 16 | 18.8 | 15 | 5.3 |
| \$45,000 or more | 29 | 34.1 | 7 | 2.5 |
| <u>M</u> | | \$41,100 | | \$16,670 |
| Median | | \$36,944 | | \$15,212 |

Table 37

1994 Earnings of Control Group and Study Group by Rank

| (\$/Year) | Control Group (N = 101) | | Study Group (N = 400) | |
|---------------|----------------------------|--------|--------------------------|--------|
| | E1-E4 | E5+ | E1-E4 | E5+ |
| <u>Mean</u> | | | | |
| Civilian | NA | 40,035 | 14,320 | 23,314 |
| Military | NA | 11,058 | 4,349 | 13,681 |
| <u>Median</u> | | | | |
| Civilian | NA | 37,000 | 12,000 | 21,000 |
| Military | NA | 7,000 | 2,366 | 10,000 |

NA = Not applicable, none in the group

Table 38

Comparison of Spouse Earnings of Control Group and Study Group

| \$/Year | Control Group (<u>N</u> =52) | | Study Group (<u>N</u> =128) | |
|---------------------|----------------------------------|------|---------------------------------|------|
| | Freq. | % | Freq. | % |
| \$0 - \$1,000 | 0 | 0.0 | 45 | 35.2 |
| \$1,001 - \$3,000 | 2 | 3.8 | 11 | 8.6 |
| \$3,001 - \$6,000 | 4 | 7.7 | 11 | 8.6 |
| \$6,001 - \$10,000 | 5 | 9.6 | 14 | 10.9 |
| \$10,001 - \$15,000 | 4 | 7.7 | 15 | 11.7 |
| \$15,001 - \$25,000 | 11 | 21.2 | 15 | 11.7 |
| \$25,001 - \$35,000 | 20 | 38.5 | 10 | 7.8 |
| \$35,001 - \$45,000 | 4 | 7.7 | 3 | 2.3 |
| \$45,001 and above | 2 | 3.8 | 4 | 3.1 |
| <u>M</u> | \$23,115 | | \$10,418 | |
| Median | \$25,000 | | \$ 5,200 | |

SUMMARY AND CONCLUSIONS

In this report, we analyzed the impact of volunteering for the MFO peacekeeping mission on the 28th rotation soldiers. We reviewed the literature on civilian earnings and retention intentions of reservist soldiers. A survey of 28th rotation soldiers (N=500) was conducted during training and deployment phases. A survey of non-volunteers (N=101) was also conducted to compare their socio-economic status with the study group of RC volunteers. Analysis of these data resulted in the following major conclusions:

- Based on a review of the literature, the costs of deployment of the AC versus the rainbow battalion (80% RC and 20% AC) did not differ substantially.
- RC volunteers were mostly younger, junior in rank, unmarried, and were either unemployed, underemployed, or in school.
- RC soldiers realized an average net financial gain (\$335/month) and AC soldiers realized an average net average loss (\$102/month) from the overall mission of the Sinai.

- RC soldiers reported greater career commitment than AC soldiers during the training phase, but no significant difference was found between these groups during the deployment phase.
- Career commitment for both AC and RC was enhanced significantly ($p < .05$) by financial gains and satisfaction with Army life.
- The financial gains of RC soldiers were reduced significantly by losses to their civilian earnings.
- The control group of non-volunteers had higher individual and family earnings than corresponding earnings of RC volunteers.

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APPENDIX A

Pearson R Correlation Coefficients among Quantitative Predictors

| | T_FINANC | D_FINANC | MO_PAY | EDUCAT | ASATIS |
|----------|----------|----------|--------|--------|--------|
| T_FINANC | 1.00 | .413* | .030 | .049 | NA |
| D_FINANC | | 1.00 | .048 | .055 | .137* |
| MO_PAY | | | 1.00 | .543* | .286* |
| EDUCAT | | | | 1.00 | .082 |
| ASATIS | | | | | 1.00 |

* p < .05

NA = Not applicable; T_FINANC = Financial gain/loss, training;

D_FINANC = Financial gain/loss, deployment; MO_PAY = Basic monthly pay; EDUCAT = Education level completed; ASATIS = Army satisfaction.